ABSTRACT

The power supply PS includes a voltage detecting circuit VD for detecting a voltage level Vs inputted from an external voltage source, a boot strap circuit BS, andET connected in parallel with BS, a smoothing circuit SM connected with the BS output terminal and a regulating IC connected with BS and FET. The regulating IC includes VD, a transistor Tr and condenser C. Both when a PS switch is turned on and when VD detects that Vs (which once descended) reaches an ascending reference, a high level driving signal generated by VD is changed into a low level signal, thereby turning off Tr connected with C. Thus, until Tr completes charging up C, a duty ratio of a pulse width modulation (PWM) signal dependent on the SM output is made gradually greater, thereby surely preventing a rush current by turning on and off the FET by the PWM signal.